

RICOWI as a Collaborative Think Tank on Roofing



By Richard K. Olson

Few organizations provide the broad-range, collaborative “think tank” of expertise for roofing assemblies as the Roofing Industry Committee on Weather Issues (RICOWI). With a membership base comprised of academia, manufacturing, contracting, insurance, testing, and design individuals, RICOWI provides a powerful forum for discussions within the roofing community.

The long-term performance of building construction in catastrophic wind events has been an important topic of discussion. In 1990, a group of interested individuals gathered to discuss the wind-related research needs for future building construction that might help identify challenges

the market is providing. The outcome of those initial discussions was identification of the need to better understand the expected performance of roof assemblies during high-wind events. This group formalized its interest, resulting in the creation of the organization known as the Roofing Industry Committee on Wind Issues, or RICOWI.

The original membership evolved from partnering with Oak Ridge National Laboratory (ORNL) as a banner organization that helped bring greater branding and organizational structure to establish a core group of engaged participants. The initial membership included academics who had performed significant testing for tornado and hurricane activities, insurance, testing labs, manufacturers, and design interests.

They formed a collaborative team and began discussions on how to develop better roof performance practices. The initial efforts focused on six primary goals that would help gather important design, testing, and performance information:

1. Dynamic testing of roof systems
2. Importance of sample size for tests
3. Role of wind tunnels and air retarders
4. Need for acceptable procedures for ballasted systems
5. Field data and response team reports
6. Communication within the roofing industry as to what the problems are, what is being done or should be done to alleviate them, and effective transfer of information within the roofing industry and to others in the building community

The overall mission has evolved over time to reflect the direction of the organization:

1. Encourage and coordinate research to provide a more knowledgeable information base of roof issues, including wind, hail, energy efficiency, and durability effects.
2. Accelerate the establishment of new or improved industry consensus standard practices for weather design and testing where they are recognized as needed.
3. Improve the understanding of roof weather concepts and issues within the building community in general.



Figure 1 – Recent hail investigation team in Oklahoma.

As an organization, RICOWI commenced formal discussions on current building performance and code requirements for both steep- and low-slope roof applications. With extensive knowledge on tornado testing, the group considered how current knowledge might be applied to wind design criteria to help improve building construction over time.

After Hurricane Andrew in 1992, RICOWI identified the need to consider actual field investigation reporting following major wind events in populated areas to help document, in an unbiased fashion, what occurs in the real world. The lack of such collaborative information provided an opportunity for RICOWI to utilize the expertise of the organization.

RICOWI created the Wind Investigation Program (WIP), which established the ability to marshal a broad-based and trained team of responders that would evaluate and collect field data from both steep- and low-slope roof assemblies. The organization provided formal training to establish over 200 potential team members who would be deployed on short notice once a named wind event was declared. Each field team was comprised of four members from different sectors of the industry to allow unbiased data. They were to gather written notes, roof samplings (where able), and pictures to help document what actually occurred on each building. Under its agreement with ORNL, the formal reports would be drafted and reviewed by RICOWI, including outside peer review prior to publication. These reports would provide the unbiased information gathered, but would not provide any formal recommendations. The intent of the reports would be to allow industry, academia, testing, and code officials to learn from the information included, which could lead to innovation for better products, processes, installation, and/or codes. RICOWI was ready but had to wait almost ten years for an event provided by Mother Nature that met the established requirements.

The RICOWI WIP teams deployed for the first events in the 2004-05 hurricane season, with investigations for Hurricanes Charley (August 2004) and Ivan (September 2004). Subsequent WIP teams were deployed following Hurricanes Katrina (September 2005) and Ike (September 2008), totaling four formal reports that were drafted and released under the RICOWI name. Free copies of these reports are available for download on the RICOWI website (<http://www.ricowi.com/reports>).

Building upon the foundation of the wind investigations, RICOWI identified a similar need for major hail events. In 1999, RICOWI formally changed its name to the Roofing Industry Committee on Weather Issues to allow the mission to expand into other areas of interest.

Following the success of the WIP program, the formal Hail Investigation Program (HIP) was established with similar trained field teams. RICOWI has produced two formal hail reports from Oklahoma City (April

2004) and Dallas/Fort Worth, TX (May 2004), with another report coming out later this fall from the recent Dallas hailstorm in May of this year. Once again, free copies of these reports are available for download at <http://www.ricowi.com/reports>.

EDUCATIONAL OFFERINGS

Beyond field investigation, RICOWI has become an interactive and networking forum that provides learning and educational opportunities to its members and



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Figure 2 – RICOWI fellowship and networking provide a powerful resource.

guests. In the early 2000s, the organization identified additional needs of its members in areas of general roof practices and design considerations. RICOWI once again expanded its offerings to include additional committees for greater discussion.

Moisture/Green Roof Designs – Today’s codes and designs are seeking improved energy-efficient roofs. The use of new and innovative roof designs provides opportunities and challenges. RICOWI is looking into how these roof systems might perform. It has a similar vision to create Moisture Investigation Program (MIP) teams to provide valuable field data in these two areas.

Codes – With extensive code revisions being considered each year, RICOWI has formed a codes committee that can help its members understand the changes for roofing applications, meet with the code proponents, and network to better understand all sides of the potential changes. RICOWI does not write or promote specific code activity, but will provide the interactive forum for learning about the language and intent of the codes.

Underlayments – As an integral part of the roofing assembly, underlayments play a vital role in long-term water-shedding abilities. RICOWI has created an open forum with the manufacturers, academia, and designers to learn what research, innovations, product literature, codes, and performance standards might be referenced. The goal is again to be educational and provide a formal resource for information from a cross section of the interested parties. Specific products are neither rated, endorsed, nor reported; only the overall umbrella of information is exchanged. The information may help others to generate new codes or standards in the future.

Best Practices – Many years ago, RICOWI identified the lack of a reference document that might help the reader better understand roofing best practices for all the various roofing products. The ability to assemble all roofing categories with information on product identification, performance/installation requirements, maintenance and damage identification, and natural weathering was considered important. RICOWI has partnered with the Institute of Building and Home Safety (IBHS), the technical arm of the insurance industry, in drafting a document that will be released as an electronic application for many end users. Working in collaboration with all players in the roofing industry, this will be a first-ever virtual document on roof identification that will grow in content over time. The goal will be to release the first segments of the manual through the RICOWI website in the winter of 2016.


Moving forward, RICOWI will be looking to continue its involvement in field investigation after major wind and hail events. We are always looking for qualified participants who might be willing to attend a one-day training and then commit to participate and cover the four- to five-day deployment and expense when the event is called.

RICOWI’s future direction as a “think tank” for roofing issues will generate new and exciting areas of discussion as we identify product advancements, new innovations, and code challenges in the building community. The broad range of expertise and interests that are represented around the table have continued to drive growth in membership. The open and cooperative discussion format allows for extensive informational exchanges and networking on many levels for members. No other organization assembles so many different leaders of the roofing industry together in one forum. The

strength and success of RICOWI is a result of its ability to attract such diversity to the same table, with open minds and a willingness to serve.

RICOWI’s efforts as an organization have been very successful in the overall building community. Its formal investigative reports and committee efforts have helped its members, the industry, and code bodies to draft new codes, designs, and best practices that will improve the long-term performance of roof assemblies. New and innovative products, services, and installation practices have been born from the RICOWI experience.

RICOWI continues to identify new areas of interest and will need new expertise and perspective within its ranks moving forward in order to allow for the best possible discussions and informational exchanges. RICOWI meets each spring (just prior to and at the same venue as the annual RCI International Convention and Trade Show) and in the fall to move its mission forward. Its meetings typically include an added educational seminar day or site visit to a roof-related facility or lab to further enhance members’ learning experiences.

For those interested in joining RICOWI or learning more about the organization’s committees, goals, or missions, please visit its website at www.ricowi.com. 



Richard K. Olson

Richard K. Olson has been a member of RICOWI since 1990 and is currently serving his second term as its chairman of the board. He is the president and technical director of the Tile Roofing Institute (TRI) and has been involved in that industry since 1978, having operated a multinational tile manufacturing company prior to taking TRI’s helm in 1991. He has been involved with numerous industry interest groups, including NRCA, IBHS, ICC, IAPMO, CRRC, ASTM, WSRCA, FRSA, ARCAT, CRSA, and CSA. Rick contributes regular columns to Architectural West and Western Roofing.